Complete Summary

GUIDELINE TITLE

National guideline on the diagnosis and treatment of gonorrhoea in adults 2005.

BIBLIOGRAPHIC SOURCE(S)

National guideline on the diagnosis and treatment of gonorrhoea in adults 2005. London (England): British Association for Sexual Health and HIV (BASHH); 2005. 9 p. [36 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVD). 2002 national guideline on the management of gonorrhoea in adults. London (England): Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVD); 2002. Various p. [20 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Gonorrhoea

GUIDELINE CATEGORY

Diagnosis
Management
Treatment

CLINICAL SPECIALTY

Infectious Diseases
Obstetrics and Gynecology
Urology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To present a national guideline for the management of gonorrhoea in adults

TARGET POPULATION

Men and women in the United Kingdom with gonorrhoea

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Culture
2. Rapid diagnostic test: microscopy (x 1000) of gram stained genital specimens
3. Nucleic acid amplification tests (NAATs)(e.g., polymerase chain reaction [PCR], transcription-mediated amplification [TMA])
4. Nucleic acid hybridization tests
5. Specimen collection
6. Screening for coincident sexually transmitted infection (notably Chlamydia trachomatis infection)

Treatment/Management

1. Recommended regimens
2. Alternative regimens
3. Treatment of patients with beta-lactam allergy
4. Treatment during pregnancy/breastfeeding
5. Treatment of pharyngeal infection
6. Follow-up assessment
7. Contact tracing and notification
8. Patient referral to Genitourinary Medicine Department
9. Provision of oral and written information for patient

MAJOR OUTCOMES CONSIDERED

- Sensitivity and specificity of diagnostic assays
- Clinical efficacy of antimicrobial therapy
- Antimicrobial sensitivity and resistance to Neisseria gonorrhoeae

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Cochrane Library 2004 Issue 2 (Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effectiveness, and Cochrane Controlled Trials Register) was searched using the textword "gonorrhoea" and all entries considered.

MEDLINE was searched for published articles in any language for the years 1990-2004 (August) using the subject headings "gonorrhea" and "Neisseria gonorrheae." The sub-headings focused on were clinical trials, drug therapy, diagnosis, epidemiology, prevention and control, and therapy. All entries in the English language or with abstracts in English were viewed because of the paucity of "clinical trials" or "reviews." Comprehensive reviews of therapy for gonorrhoea that have employed MEDLINE search strategies are published and include trials up to 1993.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence:

Ia

- Evidence obtained from meta-analysis of randomised controlled trials

Ib

- Evidence obtained from at least one randomised controlled trial

IIa

- Evidence obtained from at least one well designed controlled study without randomisation

IIb

- Evidence obtained from at least one other type of well designed quasi-experimental study

III

- Evidence obtained from well designed non-experimental descriptive studies such as comparative studies, correlation studies, and case control studies

IV

- Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grading of Recommendations:

A (Evidence Levels Ia, Ib)

- Requires at least one randomised controlled trial as part of the body of literature of overall good quality and consistency addressing the specific recommendation

B (Evidence Levels IIa, IIb, III)

- Requires availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation

C (Evidence Level IV)

- Requires evidence from expert committee reports or opinions and/or clinical experience of respected authorities
- Indicates absence of directly applicable studies of good quality

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Levels of evidence (I-IV) and grades of recommendation (A-C) are defined at the end of the "Major Recommendations" field.

Diagnosis

The diagnosis is established by the identification of Neisseria gonorrhoea at an infected site.

Culture offers a readily available, specific, sensitive, and cheap diagnostic test that readily allows confirmatory identification and antimicrobial sensitivity testing. It is currently the method of first choice for use in genitourinary medicine clinics in the United Kingdom (UK). Selective culture media containing antimicrobials are recommended to reduce contamination. (Jephcott, 1997) (Grade B recommendation).

Alternative tests include nucleic amplification tests (NAATs) and nucleic acid hybridization tests. NAATs are more sensitive than culture and can also be used as diagnostic/screening tests on non-invasively collected specimens (urine and self-taken vaginal swabs). Comparisons between NAATs and culture suggest the sensitivity of NAATs exceeds 90% for genital sites, whilst the sensitivity of culture may be less than 75% for endocervical swabs (Van Dyck et al., 2001). This probably indicates that NAATs are less affected than culture by inadequacies in collection and transport of specimens. The transcription mediated DNA amplification assay (TMA) (APTIMA Combo 2) and strand displacement amplification (SDA) assay (BD ProbeTec-SDA) are more sensitive in women than the polymerase chain reaction (PCR) assay (Cook et al., 2005). There are currently no NAATs which are licensed for use with rectal or pharyngeal samples, although studies suggest that the sensitivity of NAATs at non-genital sites exceeds 90% (Young, Manavi, & McMillan, 2003) whereas the sensitivity of culture can be less than 60% for rectal swabs (Young, Manavi, & McMillan, 2003) and less than 50% for pharyngeal swabs (Young, Manavi, & McMillan, 2003; Page-Shafer et al., 2002). Caution is required in interpretation of positive results, as the specificity of

NAATs is not 100% (Palmer et al., 2003; Katz et al., 2004). Confirmation of a NAAT positive result by culture is advisable (Grade C recommendation).

Rapid diagnostic tests can be performed to facilitate immediate diagnosis and treatment. Microscopy (x 1000) of gram stained genital specimens allows direct visualization of N. gonorrhoea as monomorphic gram negative diplococci within polymorphonuclear leucocytes. In men, microscopy of urethral smears is more sensitive in symptomatic (90 to 95%) than in asymptomatic (50 to 75%) patients (Sherrard & Barlow, 1996). In women, microscopy of gram stained endocervical smears is more sensitive than urethral smears (37-50% vs 20%) (Barlow & Phillips, 1978). Microscopy is not appropriate for pharyngeal specimens.

Specimen Collection

Men: routinely from the urethra; rectal and/or oropharyngeal tests when symptomatic at these sites and as indicated by sexual activity. A first-pass urine provides an alternative urethral specimen for testing with a NAAT.

Women: routinely from endocervix if speculum examination performed and from the urethra; rectal and oropharyngeal tests when symptomatic at these sites, when a sexual partner has gonorrhoea, and when indicated by the sexual history. Urine or a self-taken vaginal swab provides suitable alternative specimens as screening tests using a NAAT (note: the PCR assay has poor sensitivity on female urine [Cook et al., 2005]).

- Direct plating of genital samples and use of transport media with prompt laboratory plating both give acceptable results (Jephcott, 1997; FitzGerald & Bedford, 1996) (Evidence level IV).
- The use of endocervical samples alone will identify 90-95% of women with gonococcal infection (Barlow & Phillips, 1978; Ghanem, Radcliffe, & Allan, 2004).
- Data is lacking on the sensitivity of a single set of tests from anogenital sites to identify infection with N. gonorrhoeae. To confidently exclude infection in patients who attend within three days of sexual contact with a confirmed case of gonorrhoea, a second set of tests should be considered if epidemiological treatment with effective antimicrobial therapy is not given (FitzGerald & Bedford, 1996) (Evidence level IV, Grade C recommendation).

Management

General Advice

- Referral to a Genitourinary (GU) Medicine Department for management is strongly encouraged.
- Patients should be given a detailed explanation of their condition with particular emphasis on the long-term implications for the health of themselves and their partner(s). This should be reinforced with clear and accurate written information.
- Patients should be advised to avoid unprotected sexual intercourse until they and their partner(s) have completed treatment.

Further Investigation

- Screening for coincident sexually transmitted infections should routinely be performed in patients with or at risk of gonorrhoea (Evidence level III, Grade C recommendation).

Treatment

Indications for Therapy

- A positive rapid diagnostic test
- A positive culture for N. gonorrhoea
- A positive nucleic acid test - confirmation of the diagnosis by culture is recommended prior to or at the time of treatment (Katz et al., 2004) (Grade C recommendation)
- On epidemiological grounds, if a recent sexual partner has confirmed gonococcal infection.

Recommended Treatments (Sexually Transmitted Diseases [STD], 1997; "Sexually transmitted disease treatment," 2002; Bignell, 1996; Echols et al., 1994; Korting & Kollman, 1994; Moran & Zenilman, 1990; Moran & Levine, 1995; Moran, 1996)

Uncomplicated anogenital infection in adults:

- Ceftriaxone 250 mg intramuscularly (IM) as a single dose (Grade A recommendation)

  or

  Cefixime 400 mg oral as a single dose (Grade A recommendation)

  or

  Spectinomycin* 2 g intramuscularly as a single dose (Grade A recommendation).

- N. gonorrhoea has shown the capacity to develop reduced sensitivity and resistance to many classes of antimicrobials. Published trials of gonorrhoea treatment reflect clinical efficacy in a past era of antimicrobial sensitivity. Surveillance data for 2004 shows significant levels of Neisseria gonorrhoea resistance to penicillin (11.2%), tetracyclines (44.5%), and ciprofloxacin (14.1%) in the UK (Health Protection Agency, 2005; Fenton et al., 2003; Forsyth, Moyes, & Young, 2000). Most resistant infections are acquired in the UK.
- Antimicrobial therapy should take account of local patterns of antimicrobial sensitivity to N. gonorrhoea. The chosen regimen should eliminate infection in at least 95% of those presenting in the local community (Fitzgerald & Bedford, 1996).

*There may be problems with availability of this drug.

Alternative Regimens

May be used when an infection is known to be sensitive to these antimicrobials or where the regional prevalence of resistance to them is less than 5%:

- Ciprofloxacin 500 mg orally as a single dose (Grade A recommendation)

  or

- Ofloxacin 400 mg orally as a single dose (Grade A recommendation)

  or

- Ampicillin 2 g or 3 g plus probenecid* 1 g orally as a single dose (Grade B recommendation)
- Other single dose cephalosporin regimes, notably Cefotaxime 500mg IM as a single dose. (grade A recommendation) or Cefoxitin 2g IM as a single dose plus probenecid* 1g oral

- Cefpodoxime is an alternative oral third generation cephalosporin that as a single dose of 200 mg is licensed for the treatment of uncomplicated gonorrhoea (Novak et al., 1992). Published trial data is limited, but in view of its short half-life, less favourable pharmokinetics than cefixime and suboptimal efficacy against pharyngeal infection, it cannot be recommended (Grade C recommendation).
- Clinicians using alternative regimens are recommended to regularly review local antimicrobial sensitivity testing with microbiology colleagues.
- The alternative treatment regimens listed do not comprise all effective treatment regimens, but reflect clinical practice in the UK.
- High-dose azithromycin (2.0 g as a single dose) has shown acceptable efficacy in clinical trials but is associated with a high gastrointestinal intolerance (Handsfield et al., 1994). The emergence of azithromycin-resistant N. gonorrhoea has been reported and clinical efficacy does not always correlate with in-vitro sensitivity testing (Young, Moyes, & McMillan, 1997; Tapsall et al., 1998). Azithromycin is not a recommended treatment for gonorrhoea.

Beta-Lactam Allergy

- Spectinomycin* 2 g IM as a single dose

  or

- Ciprofloxacin 500 mg orally as a single dose when the infection is known or anticipated to be quinolone sensitive

Pregnancy and Breastfeeding

- Pregnant women should not be treated with quinolone or tetracycline antimicrobials.

  Recommended regimens: (Brocklehurst, 2003; Cavenee et al., 1993; Ramus et al., 2001)

  - Ceftriaxone 250 mg IM as single dose (Grade A recommendation)

    or

  - Cefixime 400 mg oral as a single dose (Grade A recommendation)

    or

  - Spectinomycin* 2 g IM as single dose (Grade A recommendation)

    or

  - Amoxycillin 3 g or Ampicillin 2 g or 3 g plus probenecid* 1 g orally as a single dose, where regional prevalence of penicillin resistant N. gonorrhoea $\leq$5% (Grade B recommendation)

Pharyngeal Infection

Recommended treatments: (Bignell, 1996; Moran, 1995)

- Ceftriaxone 250 mg IM as a single dose (Grade B recommendation)

  or

- Ciprofloxacin 500 mg orally as a single dose if N. gonorrhoea known to be quinolone sensitive (Grade B recommendation)

  or

- Ofloxacin 400 mg orally as a single dose if N. gonorrhoea known to be quinolone sensitive (Grade B recommendation)

Single dose treatments using ampicillin or spectinomycin* have a poor efficacy in eradicating gonococcal infection of the pharynx (Bignell, 1996) (Evidence level II).

*There may be problems with availability of these drugs in the UK.

Co-infection with Chlamydia trachomatis

Genital infection with C. trachomatis commonly accompanies genital gonococcal infection (up to 20% of men and 40% of women with gonorrhoea). Screening for C. trachomatis should routinely be performed on adults with gonorrhoea or

treatment given to eradicate possible co-infection (STD, 1997; FitzGerald & Bedford, 1996; "Sexually transmitted disease treatment," 2002). Combining effective antimicrobial therapy against C. trachomatis with single dose therapy for gonococcal infection is particularly appropriate when there is doubt that a patient will return for follow up evaluation.

Sexual Partners

Partner notification should be pursued in all patients identified with gonococcal infection, preferably by a trained health advisor in genitourinary medicine. Action and outcomes should be documented (FitzGerald et al., 1996). Male patients with symptomatic urethral infection should notify all partners with whom they had sexual contact within the preceding 2 weeks or their last partner if longer ago. Patients with infection at other sites or asymptomatic infection should notify all partners within the preceding 3 months. Sexual partners should be treated for gonorrhoea preferably after evaluation for sexually acquired infection (Grade C recommendation).

Follow-up

Patients should be assessed after treatment (Grade C recommendation):

- To confirm compliance with treatment
- To ensure resolution of symptoms
- To enquire about adverse reactions
- To re-take the sexual history to explore the possibility of re-infection
- To pursue partner notification and health promotion

A microbiological test of cure is not routinely necessary when the infection has been treated with a recommended directly observed therapy, the infection is fully sensitive to the antimicrobial administered, symptoms have resolved, and there is no risk of re-infection (Evidence level III, Grade C recommendation) (Holland et al., 2003; Komolafe, Sugunendran, & Corkill, 2004). If a patient is symptomatic after treatment, has received a suboptimal treatment, a resistant strain is identified, or there is a possibility of re-infection, test of cure with culture is recommended (Grade C recommendation). Pregnancy does not diminish treatment efficacy. All treatments are less effective at eradicating pharyngeal infection (Moran, 1995) and test of cure is recommended following treatment of infection at this site (recommendation C). If a test of cure is performed, culture tests should be performed at least 72 hours after completion of antimicrobial therapy (Jephcott, 1997) and NAATs tests two weeks after therapy (Bachmann et al., 2002). Infection identified after treatment more commonly indicates re-infection rather than treatment failure (Lewis et al., 1999; Komolafe, Sugunendran, & Corkill, 2004).

<u>Definitions</u>:

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Grading of Recommendations:

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- Indicates absence of directly applicable studies of good quality.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is graded and identified for select recommendations (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate diagnosis, treatment, and management of gonorrhoea infection

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Audit Criteria/Indicators

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

National guideline on the diagnosis and treatment of gonorrhoea in adults 2005. London (England): British Association for Sexual Health and HIV (BASHH); 2005. 9 p. [36 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1999 Aug (revised 2005)

GUIDELINE DEVELOPER(S)

British Association of Sexual Health and HIV - Medical Specialty Society

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Clinical Effectiveness Group (CEG)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Author: Chris Bignell, Nottingham City Hospital NHS Trust

Clinical Effectiveness Group (CEG) Members: Keith Radcliffe (Chairman); Imtyaz Ahmed-Jushuf; David Daniels (Chairman, BASHH National Audit Group); Mark FitzGerald; Guy Rooney (Royal College of Physicians representative); Jan Welch

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Conflict of interest: None

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVD). 2002 national guideline on the management of gonorrhoea in adults. London (England): Association for Genitourinary Medicine (AGUM), Medical Society for the Study of Venereal Disease (MSSVD); 2002. Various p. [20 references]

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the British Association for Sexual Health and HIV Web site.

AVAILABILITY OF COMPANION DOCUMENTS

Audit Criteria are available in the original guideline document.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on June 15, 2000. The information was verified by the guideline developer on October 13, 2000. This summary was updated by ECRI on June 24, 2002, and October 31, 2005. The updated information was verified by the guideline developer on January 19, 2006.

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DISCLAIMER

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